ABSTRACT

Extensions to a communications protocol manage the exchange of data content and related metadata according to a hierarchical data content structure. The communications protocol is the ICE protocol, and the extensions include ICE DTD extensions. Data content is preferably offered according to a subscription service provided by a first network device. The first network device is preferably a content server. The data content is organized, and thereby distributed, according to a hierarchical data content structure defined by the ICE DTD extensions. The hierarchical data content structure provides a means for organizing the data content, preferably by subject-matter. The hierarchical data content structure includes a plurality of channels, and each channel is segmented into one or more content sub-channels. Each individual data content item is associated with at least one of the content sub-channels and corresponding channel. The individual data content item is associated with a particular channel according to the subject matter of the individual data content item and the subject-matter of the channel. In this manner, a content sub-channel with a specific subject-matter is configured and an individual data content item corresponding to the specific subject-matter is associated with the content sub-channel.